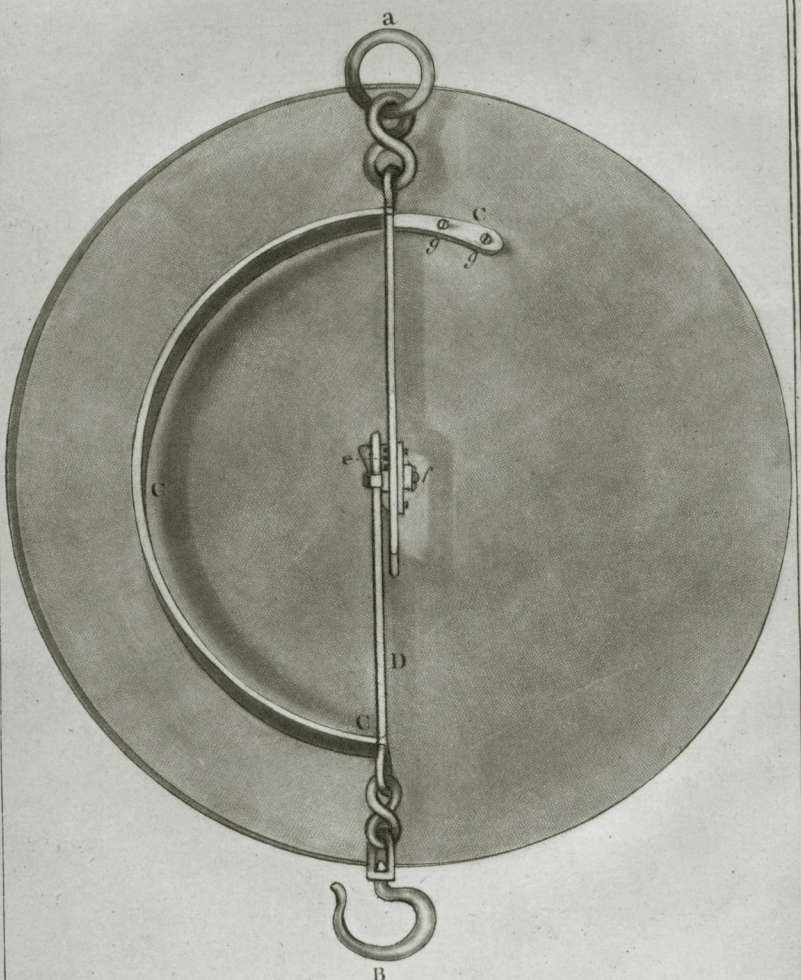
PAPERS

IN

MECHANICKS.

The Back of Mons.r Hanin's weighing Machine.



MECHANICKS.

TWENTY GUINEAS were given, as a Bounty to Monſieur HANIN, of Paris, for his conſtruction of a Weighing Machine, whereby the Weights of the principal countries in Europe, and the relative proportions they bear to each other, are ſhewn at one view. See Vol. VIII. page 235.

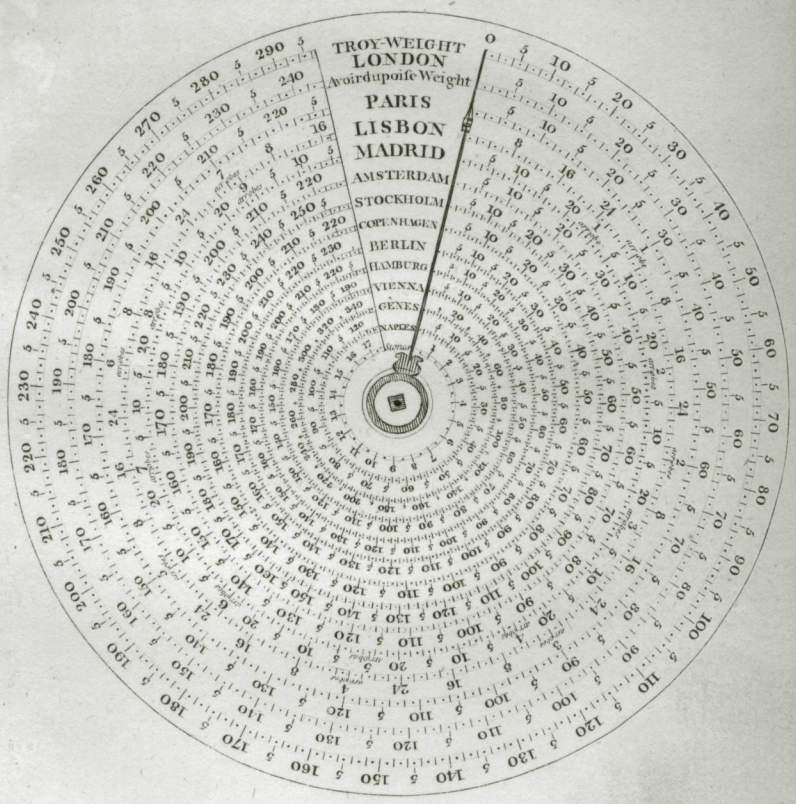
PLATE I. repreſents the back of the Machine, which being ſuſpended by the ring A, and a weight hung to the hook B, the ſpring C, C, C, made faſt by ſtrong ſcrews at *g*, is drawn downwards; and the bar D, having a rack thereon at *e*, turns the pinion *f*, in proportion to the weight of the body hanging thereto.

Plate II. ſhews the face of the machine, on which are a number of concentric circles, and the weights of ſeveral countries of Europe engraved thereon, as expreſſed

by the words on a line with them. In the centre of this face is a ring fixed to the ſmall plate, turned by the pinion *f*, ſhewn at Plate I. From this ring a hand projects, which, by the turning of the pinion, points to ſuch part of the circle as is marked with the weight, hung to the hook B; and thereby ſhews what weight of any of the countries mentioned, is equal to the pounds troy of London, which are engraved on the outer circle, or to the pounds avoirdupois, which are engraved on the ſecond circle, and ſo of the reſt. A ſlider moves on the hand, which may be brought to any of the circles at pleaſure, in order to point out the relative weight with greater preciſion.

A Bounty

The face of Mons.r Hanin's weighing Machine.



A Bounty of TEN GUINEAS was voted to Mr. JAMES BAYLEY, ſee Vol. VIII. page 237, for his Proportional Scale, of which a Deſcription and Plate is here annexed.

To the Society for the Encouragement of Arts, Manufactures, and Commerce.

My LORDS and GENTLEMEN,

HAVING invented and made a Scale for reducing plans, maps, &c. in the moſt exact manner, which may be applied to the purpoſes of triangular proportional compaſſes for taking angles; I beg leave to ſubmit it to your inſpection, and ſhall think myſelf highly honoured, ſhould it meet your approbation.

I am, my LORDS and GENTLEMEN,
Your moſt obedient
and humble ſervant,
JAMES BAYLEY.

No. 212, *Shoreditch*,
Jan. 11*th*, 1790.

Explanation

Explanation of Mr. Bayley's Proportional Scale, Plate III. Fig. 1.

This inſtrument conſiſts of two flat braſs limbs, of unequal lengths, turning upon a centre-pin A, which is fixed upon a braſs box, filled with lead B, having three points at the bottom to keep it firmly fixed to the table: a nut ſcrews at the top of the centre-pin, to keep the braſs limbs ſteady.

The longer limb C D is in length, from the centre A, twenty-eight inches one quarter, and is graduated into inches and tenths of inches: the ſhorter limb E F, which is nineteen inches and a half long, has on it four or more ſcales of inches, divided into ſmaller parts, as fifteenths, twentieths, twenty-fifths, thirtieths, &c. An index, G, moves on this limb, having a ſpring, with a projecting point underneath, connected with it.

To make uſe of the inſtrument, turn the plan you wiſh to reduce bottom upwards (as the inſtrument inverts it in the reducing);

cing); and bringing the graduated edge of the longer limb to any angular or remarkable point of the plan, &c. obſerve what diviſion it coincides with, and ſet the index on the ſhorter limb, to the correſponding diviſion on that ſcale you wiſh to reduce it to; then, putting your fair paper underneath, make a point upon it, by preſſing the ſpring with your thumb; then again move the longer limb, till ſome other angular point, or other remarkable part, coincides with its graduated edge; and obſerving the diviſion again, move the index to the ſame diviſion on the ſcale, and make a point as before.

In this manner proceed, till all the angular or remarkable points are thus tranſferred to the fair copy, which may afterwards be joined by right or other lines.

It is obvious that every angular point muſt be taken; and the greater the number of other remarkable points that are tranſferred, the more correct your plan will be.

In

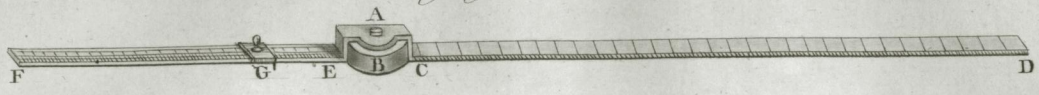
In the Fifth Volume of theſe Tranſactions, mention is made of a Bounty being given to Mr. WILLIAM RICH, of Yalding, Kent, for a Nail and Bolt Drawer.

THE annexed Plate, and Deſcription, will ſhew the form of this tool, which has been found of conſiderable uſe to workmen concerned in breaking up ſhips, and other employments, where large nails and ſpikes have been ſtrongly driven into wood, and it has become neceſſary to extract them.

Plate III. Fig. 2.

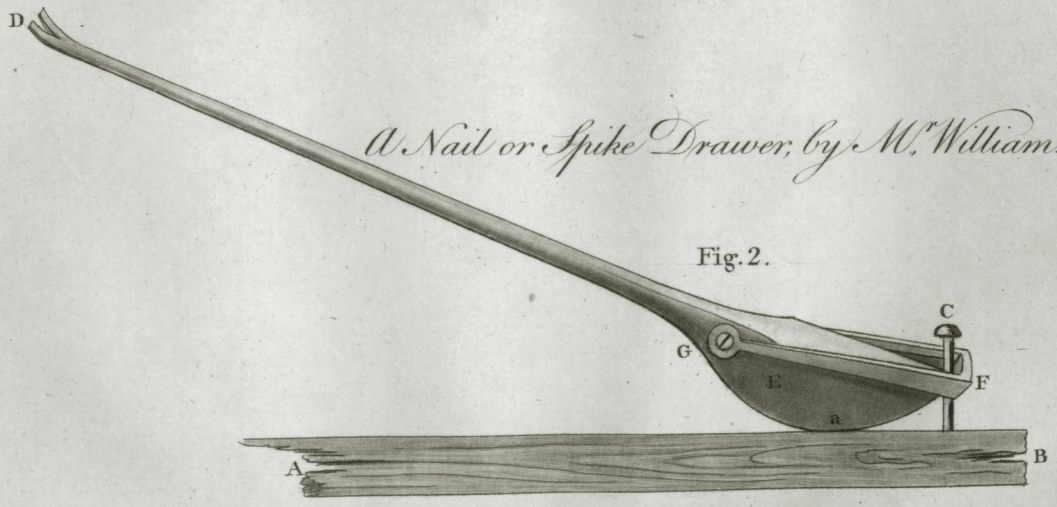
Repreſents the nail-drawer in the action of extracting the ſpike; where A B ſhews the piece of timber, C the nail or ſpike to be drawn, D E the ſhape of the tool, conſiſting of a lever, D, moving on a ſolid part, in form of the ſegment of a circle, at E: a ſquare ſtaple, F, turns on a centre at G; and

Mr. Bayley's Proportional Scale. Fig. 1.



A Nail or Spike Drawer, by Mr. William Rich.

Fig. 2.



and the ſpike to be drawn, being held between the end of the lever and the ſtaple, any preſſure at D acts with an effect proportional to the diſtance *a* F and D *a*, and conſequently enables the workman to exert a very great force againſt the ſpike C.

In conſequence of the Rewards offered for taking Whales by the Gun-Harpoon, in the year 1790, the following Accounts and Certificates were received; and the Premiums, being THREE GUINEAS for each Fiſh ſo taken, paid to the undermentioned Harpooners.

SIR,

THIS is to certify, that James Roach, harpooner, in the ſhip Betſey, under my command, on the 17th of June 1790, in the latitude of 71° 4′ north, in the north-eaſt Bay of Davis's Straits, about ſeven or eight miles from Unbekent Iſland, ſhot a fiſh, about eight or nine fathoms diſtance from the boat, which fiſh ran out three or four lines, and was killed in one hour and a half or thereabout. Witneſs my hand, this 7th day of December, 1790,

TYZACK HULLOCK, Maſter.

New Road, St. George's in the Eaſt.

Mr. MORE.

SIR,

SIR,

THIS is to certify, that William Shaw, harpooner, in the ſhip Betſey, under my command, on the 13th of June, 1790, in the latitude of 71 degrees north, in the north-eaſt Bay of Davis's Straits, about ſix or ſeven miles from Unbekent Iſland, ſhot a fiſh about ten fathoms diſtance from the boat, which fiſh ran out five lines, and was killed in one hour and a half, or thereabout. Witneſs my hand, this 7th day of December, 1790,

TYZACK HULLOCK, Maſter.

New Road, St. George's in the Eaſt.

Mr. MORE.

SIR,

THESE are to certify, that the bearer hereof, Jacob Bell, one of the harpooners of the ſhip Melliſh, ſhot three Whales in Davis's Straits on the following days, in the year 1790; the firſt on the 19th

19th of May, the ſecond on the 26th of June, the third on the 1ſt of July. Witneſs my hand,

JOHN STAVERS,
Maſter of the ſhip Melliſh.

Woodborn,
Nov. 20*th*, 1790.

Mr. MORE.

SIR,

I BEG leave to certify to you, the under-mentioned inſtance of taking a Whale by the Gun-Harpoon, this laſt ſeaſon, in a boat belonging to the ſhip Simond, of Ipſwich, under my command, in behalf of the harpooner, and as an inducement for others to follow his example.

Charles Fox, harpooner of the ſaid ſhip Simond, on the 30th of June 1790, at 1 A. M. being in latitude 71° 14′ north, and about ſixteen or ſeventeen fathoms diſtant from a Whale Fiſh, perceiving her going down, fired with the harpoon-gun made by

by Mr. Moore, and got faſt to the fiſh, which ran out five lines and a half, each one hundred and fifty fathoms long, which was about eight hundred and twenty-five fathoms in all, and then came up, when four more harpoons were ſtruck in; and at 2 A. M. ſhe was killed. The length of her bone was ten feet two inches, and boiled about fourteen tons of oil.

Given under my hand, this firſt day of January, 1791.

ROBERT GORDON, Maſter.

Mr. MORE.

THESE are to certify, that Lawrence Frazier, harpooner, on board the ſhip Alderney, of London, Sinclair Halcrow commander, in Davis's Straits, on the whale-fiſhery, on the 22d of June 1790, at 6 o'clock P. M. in latitude 71° north, and 50° weſt longitude, ſhot a Whale with the Gun-Harpoon, diſtance

from the boat about eight fathoms, which died in half an hour.

SINCLAIR HALCROW,
Maſter of the ſhip Alderney.

October 1ſt, 1790.

Mr. MORE.

SIR,

THESE are to certify, that John Curry was mate of the Neptune on her voyage to Greenland this year; and that, on the 12th of May, in the latitude 79° 7′ north, he ſhot a Whale, and we killed her; and on the 14th of May he ſhot two very large Whales; and after being faſt for ſeveral hours, we loſt them both: as witneſs my hand,

JOHN BAILIE,
Maſter of the Neptune.

Stepney,
Dec. 8th, 1790.

Mr. MORE.

SIR,

SIR,

I SHALL be extremely obliged to you, if you will pleaſe to lay the incloſed Certificates of the uſe of the Harpoon-Gun before the Society, for their information, and for the benefit of the men that ſhot the fiſh;

And that the Society will be pleaſed to accept my moſt hearty thanks for their encouragement of the Harpoon-Gun, particularly as the ſucceſs I have had this voyage has been owing in great meaſure, under God, to the Harpoon-Gun, and the Gentlemen of the Society for the encouragement of it.

I am, SIR,

Your moſt humble ſervant,

JOHN WHEATLEY,

Maſter of the Queen Charlotte, of London.

London,
Dec. 1ſt, 1790.

Mr. MORE.

THESE are to certify, that the Whale fiſh were ſhot by the undermentioned people belonging to the ſhip Queen Charlotte, of London, John Wheatley, maſter, as per log-book delivered upon oath at the Cuſtom-Houſe, September 8, 1790.

June 13, 1790. In latitude about 71°, in Jacob's Bight, about four leagues from the ſhore, William Wilſon ſhot a fiſh at twelve fathoms diſtance, cloſe to a pack of ice: it ſwiftly ran out three lines amongſt the ice, where the other boats could not follow, and where we held it near two hours; it came out near the place where ſtruck, and was killed in a very few minutes.

June 15, 1790. James Brown, harpooner, ſhot a fiſh at fourteen fathoms diſtance: it ran out a line and a half, ſtaid down about half an hour, and was killed in about

about forty minutes from the firſt ſtriking, and in the ſame place where firſt ſtruck.

June 21, 1790. James Brown, harpooner, ſhot a fiſh at eight fathoms diſtance, the harpoon very deep in its body: it ran out two lines, and came up in a few minutes, where it lay a long time, the other boats being at a great diſtance; in about an hour they came up, when it was killed in a very ſhort time.

June 24, 1790. Thomas Sinton ſhot a fiſh, diſtant from it one fathom: the harpoon went in about three fathoms, in a ſlanting direction: it ran out four lines, and came up in half an hour; ſtruck in ſome hand-harpoons and lances: it went down again, and died under water in a ſhort time.

July 2, 1790. James Brown again ſhot a fiſh at eight fathoms diſtance, amongſt ſhoaling ice, very deep into its body: it lay upwards of half an hour about twenty fa-

thoms from the boat, when, the other boats coming up, it was killed in a few minutes. The firſt four fiſh were ſhot in latitude between 71° and 72°, and from two to five leagues from the ſhore, in Jacob's Bight, or N. E. bay of Davis's Straits; the laſt was in the ſame latitude, and about fifteen leagues from the ſhore; all large fiſh, from ten feet and a half to eleven and a half bone.

The

The following Certificate having been received, a Premium of TEN GUINEAS was laſt year adjudged to Mr. CHARLES MOORE, Gun-maker, Eaſt-Smithfield, for his improved Gun for throwing Harpoons. See Vol. VIII. page 236.

THIS is to certify, that the Harpoon-Gun invented and made by Mr. Charles Moore, Gun-maker, in Eaſt Smithfield, is the beſt calculated, and has proved of the greateſt utility of any yet known, for the Whale Fiſhery. There being generally a large ſwell in thoſe ſeas, Harpoon-Guns have hitherto often failed. By Mr. Moore's invention the wet is prevented injuring the priming; and that inconvenience avoided, and as a proof of the above, we have hereunto ſubſcribed our names.

THEOPHILUS PRITZLER, Owner of the Lyon,
WILLIAM BROWN, Maſter of the Butterworth,
WILLIAM STAVERS, Maſter of the Leviathan,
SINCLAIR HALCROW, Maſter of the Lyon,
Greenland Ships.

DESCRIPTION *of the* PLATE *of Mr.* CHARLES MOORE's HARPOON-GUN.

A. The Butt-ſwivel.
B. The Bolt.
C. The Slide.
D. The Barrel.
E. The Swivel.
F. The Swivel Shank.
G. G. The Claws.
H. The Cock.
I. The Hammer.
K. The Trigger.
L. The Harpoon, with its ring and rope.

When the gun is prepared for firing, the ſlide C covers the priming, and prevents any wet affecting it; but to diſcharge the gun, one finger being preſſed on the knob *b* of the bolt B, and the Butt-ſwivel A drawn back; the claws G G, and the trigger, which are connected with it, are drawn back alſo; ſo that, at the inſtant the cock H falls, the ſlide C is, by the claws, pulled back, and an opening left for the eſcape of the air and ſmoke of the priming, and the danger of burſting avoided.

Plate IV.

Mr. Chas. Moore's improved Harpoon Gun.